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(71) Applicant (for all designated States except US): **E-FITTING, INC.** [US/US]; 4675 Exburg Court, San Diego, CA 92130 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **LIN, Shaw-Yueh**

[US/US]; 4675 Exburg Court, San Diego, CA 92130 (US).  
**TAKASHIMA, Rodney** [US/US]; 4684 Mississippi Street #1, San Diego, CA 92116 (US).

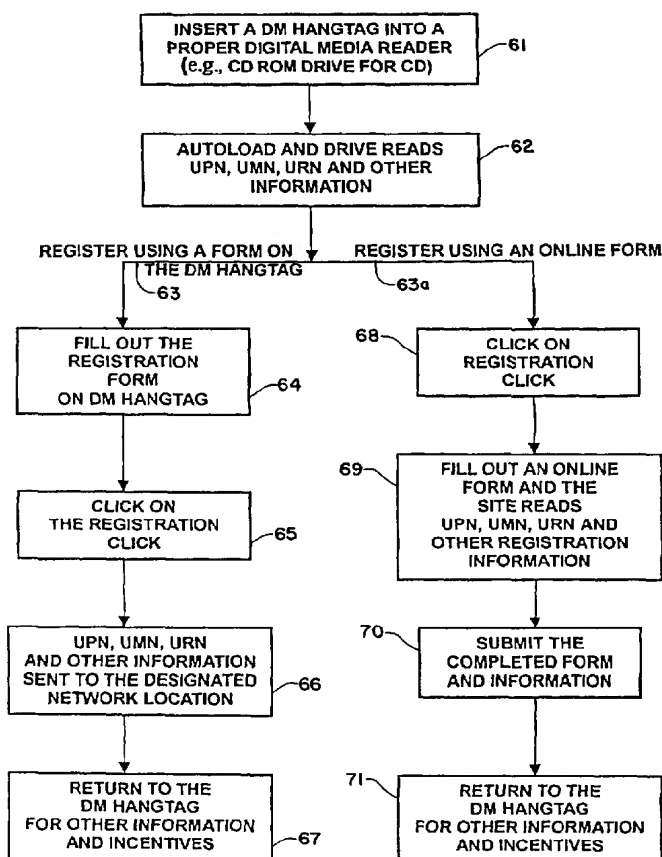
(74) Agent: **SIKORSKI, Edward, H.**; Luce, Forward, Hamilton & Scripps, LLP, Suite 2600, 600 West Broadway, San Diego, CA 92101 (US).

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(54) Title: PRODUCT REGISTRATION SYSTEM AND A HANGTAG USABLE THEREWITH



(57) Abstract: Purchased products are registered with the manufacturer, retailer, or other party through a network communication link, such as through the Internet. A product hangtag includes a readable and optionally writable recording medium which is used to facilitate the connection to the network address of the registration system, and/or to give the consumer additional information about that or other products. The hangtag stores information about the product with which the hangtag is associated, as well as software to be run on a consumer's computer after the product has been purchased. The hangtag can be a static medium requiring no moving parts, or a dynamic medium such as a compact disc requiring relative movement between the medium and a read/write device.



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**PRODUCT REGISTRATION SYSTEM AND A HANGTAG USABLE THEREWITH**

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**Inventors:****Shaw-Yueh LIN  
Rodney TAKASHIMA**

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The present application claims the benefit of prior United States provisional  
25 patent application Serial Number 60/172,294, filed December 15, 1999, the entire  
contents of which are hereby incorporated by reference.

The present invention relates to an innovative system for registering products over  
30 a network of interconnected computers such as the Internet, and to a product hangtag  
storing digitally recorded media that could be used in the system. The present invention  
combines state-of-the-art media storage technologies, advanced systems, appliances and a  
computer network to read, retrieve, and/or write data relevant to purchased or to-be-  
purchased products.

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## BACKGROUND OF THE INVENTION

Product registration is a step that a consumer takes, after purchasing a product, to inform the product's manufacturer that the product has been purchased, and by whom. Product registration has been used for numerous types of products, such as computers, equipment, peripherals, software, and others, but always for the purpose of offering some type of service warranty. It has not been done for other products, such as clothing, shoes, and accessories such as jewelry, hats and others, furniture, sporting goods, toys and many others, even though some of these products also offer some type of service warranty. For example, jewelry stores offer limited warranty on certain aspect of their jewelry, such as stone settings and gold plating. But without product registration, a consumer needs to carefully keep the original receipt as a proof of purchase.

A main reason that product registration has not been done for all products and for purposes other than warranty servicing is because there is a lack of a convenient way for a purchaser to register his or her purchases. Most product registration is still done with the consumer filling out a registration card that comes with the product, and mailing or faxing the form to a designated place.

With the emergence of computer networks such as the Internet, many manufacturers have begun to offer electronic product registration. A consumer who purchases a product need not fill out a paper form. Instead, they log on to a designated network location, such as a web site address, and fill out a form online to complete the registration.

Some software and electronic hardware manufacturers also have begun to provide automatic product registration directly from the computer on which the software or hardware is installed, or from the electronic product itself, if either the system's software is installed onto, or the electronic product itself is directly connected to, a designated network location. The Internet links are either built into the software or operating system in the hardware product, or into the installation process for software that is downloaded from the Internet or recorded on a digital medium (such as a floppy diskette or a CD-ROM).

However, the above electronic product registration so far has been limited to registration for warranty services. Each product comes with a serialized product serial

number, which can be found, for example, on the back of a notebook computer or cellular phone, recorded on a CD-ROM, or printed on the product's accompanying sleeve or user's manual.

Distinct and independent of the registration process are traditional product  
5 hangtags. They are printed tags, usually made of paper, cloth, plastic or other synthetic material, bearing printed information about a product's price and description. Such hangtags are commonly attached to clothing, furniture, accessories such as shoes and cosmetics, and many other products. Their contents typically include human-readable information about the product itself (e.g., manufacturer, service information, etc.), and  
10 machine-readable information, such as a barcode, so that a store's point of sale computer system can identify specifics of the product and track the product's purchase and inventory.

The prior art hangtag is always detachable (by force, if necessary), and for most merchandise it is usually discarded by consumers after they purchase and/or start using  
15 the product.

The hangtag has been used for a long time and has been an effective merchandising tool. Although most are printed tags, there have been efforts to use different media for a product hangtag, such as magnetic, optical and electronic media instead of printed media. For example, electronic tags, as they are commonly called, use  
20 active electronic components such as microprocessors, low level electronic signal receivers and transmitters, small flat panel displays such as liquid crystal displays (LCD) or light emitting diodes (LED), and input devices such as switches or key pads, in order to provide additional functions of inventory control, product merchandising, etc. Due to cost considerations, however, these types of hangtag have yet to see widespread  
25 acceptance.

Since early 1990, inexpensive digital media such as CD-ROM's, floppy diskettes, CD-R's, solid state memory such as Flash memory cards, etc., have become increasingly popular and are widely used today. They have also been used to provide promotional product and advertising information by many merchants and service providers who  
30 distribute them by mail or give them away at tradeshow, retail locations and public

places such as shopping malls. Such digital media usually contain information that is very general in nature.

#### BRIEF SUMMARY OF THE PRESENT INVENTION

5 The inventors are of the opinion that product registration is not only necessary for service warranty considerations, but also can be an effective way for manufacturers to better understand their customers, to provide value added services and offer other products to those customers, to better plan product marketing and advertising campaigns, and to better design future products and services.

10 To introduce product registration for both service and marketing purposes to products such as clothing, accessories, gift items, furniture, etc., without requiring the purchaser to fill out a paper form and mail or fax it to the manufacturer, is new and forms one of the bases of the present invention. According to certain embodiments disclosed herein, the process is fast and easy for consumers to complete. It also provides incentives  
15 to encourage consumers to participate.

The inventors have found that a need also exists to devise a communications and database management structure that keeps, organizes, manages and fully analyzes the registered product and user information to transform information into knowledge, so that reports can be generated that benefit manufacturers and consumers alike. Additionally,  
20 due to fast-paced market changes, these knowledge based reports must be dynamic, must reflect changes instantaneously, and must be updateable and understandable by manufacturers and consumers at all times.

In its simplest form, the present invention describes a new product registration system which, in certain embodiments, uses a digital media hangtag. Registration may  
25 also be done using other network-registration-ready hangtags in combination with connected computer network.

Another aspect of the present invention is its novel data organization and management methods, and its technologies for managing the registration information including that of a consumer and that of a product.

30 Yet another aspect of the present invention is its new business applications and models that result from the inventions mentioned in the preceding paragraphs.

With the emergence of connected computer networks such as the Internet (or Net), there is a need to more closely link the sales processes happening at a brick-and-mortar store and on the Net. The present inventors have developed a cost effective yet functional media which can replace traditional printed hangtags, and can be a viable solution for making such a link between Internet sales and brick-and-mortar sales.

Summarized below are what the present inventors believe represent the characteristics of such a new media:

<u>Inventive digital media hangtag</u>	vs.	<u>Traditional hangtags</u>
Dynamic Information Storage	vs.	Static
Almost Infinite Information	vs.	Finite amount of information
Proactive Components	vs.	Passive
Engaging	vs.	Dull

#### BRIEF DESCRIPTION OF THE DRAWINGS

The present invention will become more fully understood from the detailed description given below, together with the accompanying drawings which are given by way of illustration only and thus are not to be construed as limiting the scope of the present invention. In the drawings:

Fig. 1(A) shows an example of a static data record embodiment of the present invention.

Fig. 1(B) shows another example of a static data record embodiment of the present invention.

Figs. 2(A) to 2(C) show protective measures in certain embodiments of the present invention.

Figs. 3(A) and 3(B) shows a top and side view of an embodiment of the present invention.

Figs. 4(A) to 4(C) show embodiments of read and/or write devices according to the present invention.

Fig. 4(D) shows another embodiment of the hangtag according to the present invention.

Fig. 5 shows a general block diagram of the networked registration system according to an embodiment of the present invention.

Fig. 6 is a flow chart showing registration processing according to an embodiment of the present invention.

5 Fig. 7 is a flow chart showing registration processing according to another embodiment of the present invention.

Fig. 8 is a flow chart showing hypertext linking from the hangtag according to an embodiment of the present invention.

## 10 DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

With the above-noted features in mind, certain embodiments of the present will now be described, beginning with a description of the digital media hangtag. Certain embodiments of the present invention relate to hangtags that store digitally recorded information. The hangtags can be formed into any of various shapes and colors, such as a  
15 magnetic, optical, or magneto-optical disks much like a CD-ROM (compact disk – read only memory), CD-R (CD – read only), CD-RW (CD – read/writable), DVD-ROM (Digital Video Disk – read only memory), DVD-R (DVD-read only), DVD-RW (DVD-read/writable), DVD-RAM (DVD-random access memory), floppy diskettes, high density diskettes such as Zip, LS120, IBM MicroDrive, etc., and solid state memories,  
20 including flash memory, such as CompactFlash, SmartMedia, Multimedia Cards, MemoryStick, and others. The hangtag according to the present invention is attached, preferably (but not necessarily) temporarily, to a product such as an article of clothing, fashion accessory, furniture, gift item, and any other product, in a manner that meets the features and characteristics listed below.

25 Shown in Figs. 1(A) and 1(B) are examples of embodiments having a hard shelled solid state memory. The hangtag 10 is connected by a plastic loop 12 or any other product attachment mechanism to a product (not shown). The hangtag includes printed media 14, which may be a label glued to the hangtag body or ink applied directly to the hangtag body, bearing any one or a combination of: human-readable information 14a,  
30 machine-readable indicia 14b (such as a single-dimension or two-dimension bar code), and pictorial indicia 14c. The human-readable information 14a and the pictorial indicia



14c inform the consumer (and perhaps a machine) of the product's description, price, manufacturer, etc. All or portions of the printed media 14 can be replaced by an active display such as an LCD or LED, but that is a less preferred implementation of the present invention.

5 In order to attach the hangtag 10 to the product attachment mechanism 12, an intermediate material 13 may be provided. Such material 13 may be glued or otherwise fused to the body of the hangtag 10, and may have a hole through which the attachment mechanism 12 passes. Optionally, the attachment mechanism 12 may be glued directly to the body of the hangtag 10, and/or pass through a hole provided in the hangtag 10  
10 itself.

In Fig. 1(A), the body of the hangtag houses an internal set of electronic chips accessible through an electronic connector 16. The drawing shows the body of the housing as rectangular, in which case the connector is preferably provided on a edge of the rectangle opposite the side from which the product attachment mechanism 12 is  
15 connected. The artisan will appreciate, however, that the connector can be configured to reside on any edge of the hangtag's body, and even on its front or back surface. In a simple embodiment, the chipset includes only a memory such as a flash memory, while more elaborate embodiments include processors or memory controllers as well as the memory. In any event, the embodiments encompassed by Figs. 1(A) and 1(B) have  
20 "static" memories, meaning that they are read without moving parts.

With the connector 16 being distal from the product attachment mechanism 12, the hangtag 10 may be read and/or written to while it remains attached to the product, as the connector side is accessible.

To protect the connector 16, there is optionally provided a cover such as the cover  
25 20 shown in Fig. 2(A). The cover is preferably made of proper anti-static material for avoiding static discharge and/or the other ailments described above. The cover 20 may be rigid or flexible, and extends at least over the exposed portions of the connector 16. The cover may be opaque or transparent, but if opaque it preferably does not extend so far as to obscure the printed media 14. The cover is preferably separate from the hangtag  
30 body (although it can be connected to it by a leash (not shown)), and is shaped to slide

over the hangtag body. It can be removed easily in order to expose the connector 16 so that data stored in the memory of the hangtag 10 can be read or written to.

The cover 16 can also be integrated as a part of the hangtag's body, such as by hinging it in a manner that exposes or shield the connector 16 depending on the position to which it is rotated, or by having it slide or retract to positions where the connector 16 is exposed or shielded.

In the embodiment of Fig. 2(B), the hangtag 10 lies within the cover 20 in a manner that permits the hangtag to be moved between first and second positions within the cover 20. In a first exposed position, the connector 16 is accessible to an external device, while in a second retracted position, the connector 16 is not accessible (or at least in a position that gives it more protection than when it is in the exposed position). A friction fit between the hangtag body and its cover preferably keep the hangtag in its current position. A finger through-hole can be provided on a back 22 and/or side 24 of the cover in order to permit a person to manually move the hangtag between the two positions. A detent (not shown) can also be provided on either or both of the hangtag body and cover 20 to keep the hangtag in its retracted and/or exposed positions, and/or to restrict the distance that the hangtag can be moved into or out of the cover 20. An attachment line 26 is also optionally used to restrict the distance that the hangtag can be moved relative to the cover 20.

The product attachment mechanism 12 can be connected to the cover 20 and/or to the hangtag body 10, and can be integrated with the attachment line 26.

The artisan will appreciate that the cover is preferably transparent so that the printed media 14 can be viewed without moving the hangtag. Alternative embodiments include an opaque cover 20 having a window (an opening or a transparent component) that permits the printed media to be viewed.

In operation, the hangtag's digital media (such as its memory) is made available for reading/writing (e.g., in the position of Fig. (C)), or the hangtag is returned into its protective cover 20 (Fig. (2(B))) by simply pushing the media in different directions.

For those embodiments in which the digital media can be read or written to only when there is a relative speed between a read/write mechanism and the media (herein

referred to as a “dynamic” media), the embodiments of Figs. 1(A) through 2(C) are still viable. However, Figs. 3(A) and 3(B) offer another alternative.

Figure 3(A) shows a top view of an embodiment using dynamic media. In particular, the example illustrates an optical disc as the main body of the hangtag 10, with an optional hole 34 for a read/write machine. The disc resides within a generally circular collar 30 which is preferably plastic. The outside edge 32 of the disc lies in the collar 30, but the diameter of the interior space in the collar 30 is greater than the diameter of the disc so that the edge of the disc does not need to touch the inside of the collar. Similarly, as best shown in Fig. 3(B), the height of the interior space afforded in the collar 30 is greater than the thickness of the edge of the disc so that there is at least one position where the disc and collar do not touch each other at all. Such a position is preferably used when the dynamic media will be read and/or written to. However, a felt or other low-friction barrier (not shown) can be integrated into the collar and/or disc, or provided between the collar and disc, in order to act as a buffer between the two as the media is read and/or written to. Either way, the media is secured while its motion is not constrained.

Although the collar can be of a flexible material it is preferably rigid, and although it is shown in the drawing as having a circular outer periphery, it can be given other shapes as well.

A dynamic media may be in a shape different from a round one. As long as a concentric spinning motion is required of the media, the same packaging of Figs. 3(A) and 3(B) can be used, as these shaped media are usually made from a round shape and therefore the same type of round cover idea will be able to secure the outer edge of the media while still allowing room for motion. As shown in Fig. 4(D), for example, the round shape of the disc can be truncated with linear side edges 5a, 5b. The drawing also shows a hole 7 for the product attachment mechanism 12 and a removable clear or opaque plastic cover 3 with optional holes 3a.

The embodiment of Figs. 3(A) and 3(B) can be enhanced by addition of a cover which protects the recording surface of the media when it is not being read or written to. The cover (not shown) can be a press-seal cover much like a plastic lid for a bowl, in which case the outer periphery of the collar 30 should have the proper shape for holding

the cover. Alternatively, the cover can be hinged to the collar 30 can movable between a first position in which the recording surface is exposed, and a second position in which the surface is protected. The cover may bear the printed media 14 and/or such printed media 14 can be included on a surface of the dynamic media such as the disc of Figs.

5 3(A) and 3(B).

According to the above-described embodiments, and other embodiments encompassed by those that are described, reading and/or writing to the inventive hangtag can be achieved while the hangtag is attached to the product.

One of the unique features of the hangtag according to the present invention is the  
10 ability to provide on site product merchandising or information over and beyond what is possible with a traditional hangtag. For example, the volume of information that can be stored in the static or dynamic media of the hangtag may provide additional information over and above the information provided by the printed media 14 (if any). Details of the product's contents or materials, specification of how to care for the product (such a how  
15 to wash or otherwise care for clothing), and information about accessories related to the product can all be stored in the hangtag. In essence, the hangtag becomes a sales person on-site, customized specifically for the particular product. This is very useful for retailers who have difficulty finding retail sales associates on the floor. It is also generally useful as no sales can possibly fully understand each and every new product that arrives at a  
20 store. This information may be available through the hangtag, pre-recorded and attached to the product at the manufacturer's site, so they can help retailers provide on-demand customized sales information.

Additionally, for writable types of recording media used in the hangtag, additional information may also be recorded to the media by the store. Examples are CD-R, CD-  
25 RW, DVD-R, DVD-RW, DVD-RAM, floppy diskette, flash memory, etc.

For example, a sales person may be asked to update the price of a particular type of clothing for special sales or markdowns. With a read/write device, such as a portable or stationary device, and with optional access control and password protection, the sales person can apply this information by recording it into the recording media of the hangtag.

30 Another example is that, at the check out counter or point of sales terminal, a sales associate, after completing the transaction, can update the hangtag to reflect that it

has been sold, and/or to register a flag in the hangtag that permits portions of it to be read, so that it can now be read as well as written to by the consumer after they bring the product home. With the writing capability, a consumer may be able to add information they obtained previously from another hangtag, or from a website, or from their own  
5 previous work, to make the hangtag more than just a hangtag, but a source of accumulated information.

In order for certain on-site, on-demand, sales, promotion and information services be accomplished with the hangtag according to the present invention, the hangtag needs to be read and written to while the hangtag remains attached to the product.

10 Shown in Fig. 4(A) is one approach for reading a hangtag having solid state or other statically read/written media while it is attached to a pair of pants 60a or other product, i.e., where the information is read/written without moving parts. A portable electronic device 40a that contains a compatible data interface 42 for communicating with the connector 16 (Fig. 1(A)). The hangtag's connector 16 may be inserted into a slot  
15 in which the interface 42 resides, or the hangtag 10 can receive the interface 42 in its own slot, or the connector 16 and interface 42 can simply be surface-mounted and abutted against one another.

The read and/or write device 40a preferably includes a keypad, a display, and active electronic components controlled by a microprocessor or other controller. The  
20 interface 42 is able to read and/or write data from/to the hangtag, and the hangtag likewise is able to receive and convey data to the device 40a. The device 40a can also include a communication line for receiving data from a remote location, such as data downloaded from a web site.

Fig. 4(B) shows one approach for reading a hangtag having dynamic media while  
25 it remains attached to a blouse 60b or other product, i.e. media requiring relative speed between the media and its read/write device. The types of media contemplated here include magnetic, optical, or a combination of both. In Fig. 4(B), the hangtag may be read and written to as the media is in motion but while it remains attached to the product. In this particular example, a round CD is used as an example.

30 A portable read and/or write device may be used for reading the hangtag embodiment of Figs. 3(A) and 3(B). In Fig. 4(B) a base 45a accommodates the hangtag's

disc as it resides in the collar 30, and a top cover 45b contains a read and/or write head mechanism 44. The base and top cover are hinged relative to one another so that the head mechanism 44 can be brought to a read/write position relative to the disc. The base 45a and cover 45b need not swallow the entire disc (Fig. 4(C)), but rather can be made small enough to sandwich a portion of the disc sufficient to effect reading and/or writing. That is, in the embodiment of Fig. 4(B), the top cover 45b and/or the base 45a may include grooves 47 which accommodate the thickness of the collar 30 and/or a groove 49 for the product attachment mechanism 12. Similarly, the embodiment of Fig. 4(C), while being wide and long enough to swallow the entire periphery of the hangtag 10, may include a depression 48 similar in size and shape to the collar 30 so that it fits more easily in the device 40b. The depression 48 can also be used in the embodiment of Fig. 4(B).

It should be understood that the base 45a and cover 45b need not be hinged or otherwise movable with respect to one another. However, to operate the specific embodiments of Figs. 4(B) and 4(C), the hangtag 10 is fitted between the base and top of the read/write device 40b, the top is closed, and operations can begin. The device 40b is preferably fitted with a keypad, display, and active electronic components controlled by a microprocessor or other controller. The device 40b can also include a communication line for receiving data from a remote location, such as data downloaded from a web site.

This way of loading the hangtag, whether it includes a round shaped CD or any other shaped media, will make the following two modes of operations possible in order to read or write to the media: The media will be in motion and the head mechanism remains stationary, or the media will remain stationary while the head mechanism is in motion.

Reading and writing to the hangtag after it is removed from the product is also possible according to the present invention. Once the hangtag is removed from the product, most likely by severing the product attachment mechanism 12 after it is purchased, it may be removed from the collar 30 and be read or written to using a computer system, a network terminal or a portable device where a proper data interface is available. In this instance, the collar 30 may include a perforation that facilitates its removal from the media itself. Most preferably, the media is adaptable for reading/writing from a personal computer.

Unlike a traditional printed hangtag, which is usually discarded once the product is used, the hangtag according to the present invention may be kept by the consumer, as its contents are valuable and can be used for other extended services and sales opportunities well after the product purchase. In this regard, a traditional hangtag contains as much information as its surface areas allows. In certain cases, the hangtag is in the form of a small booklet to allow for more information. The inventive hangtag, however, will still allow printed information to be placed on the surface of the media or its housing, so that it looks to some extent similar to the traditional hangtag. Thus, at the retail store, it performs exactly the same function as a traditional hangtag.

However, once the inventive hangtag is read, the information could reach beyond the finite information recorded on the media. For example, software stored on the hangtag's media can drive a program on the consumer's computer (be it a personal computer, palm top computer, personal communication device, etc.). Keystrokes or mouse clicks connect the consumer, through a network such as Internet or a local area network, to far greater source of information. This information architecture marks one of the significant differences between a traditional hangtag and the hangtag of the present invention – the present invention makes the hangtag the start of information gathering.

This information architecture, utilizing the inventive hangtag to create the starting point of information gathering through a network such as Internet, is a major reason why the present invention enhances the role of hangtags in product merchandising. And as indicated earlier, changing the state of a flag on the hangtag's media (such as when the product is purchased at a point of sale terminal having read/write capabilities for the hangtag), in order to enable the hangtag to operate on the consumer's software can act as a security measure. Only consumers who have validly purchased a product will be able to use the software or other benefits stored on the hangtag itself (such as an electronic coupon that can be redeemed at the store by bringing in the hangtag, or by printing a paper coupon using the consumer's home computer – the software driving such coupons would be stored on the hangtag and enabled only when the product is validly purchased, versus stolen).

One application of the hangtag according to the present invention is for clothes fitting. For example, a company may provide clothes fitting software on the media of the

hangtag 10, so that with the consumer's own body measurement and a digitized clothing picture, a consumer may "try on" any clothing apparel offered by that company, using the hangtag and a computer. A consumer may also record other digital clothing information he or she already has, onto a recordable hangtag. With a single hangtag according to the present invention, consumers will be able to mix and match their digital wardrobe to pick what they are interested in.

As a final note regarding the hangtags, the present invention encompasses the process of producing the inventive hangtag, including the following steps.

Selecting the material to house the components of the hangtag. Considerations include protecting data integrity from physical interference such as electrostatic discharge, electromagnetic interference, and the like.

Embodiments of the inventive hangtag which use an electronic storage media with an active microcontroller built in, such as a CompactFlash memory card, are susceptible to electrostatic discharge. The housing for such hangtags need to contain anti-static material. Furthermore, the choice of material for the hangtag should also consider the product to which it will be attached. For example, if hangtags 10 were to be produced and attached to jackets for the winter season, then the artisan should consider not only the fabric of those jackets, but also the fabric of the store's flooring. Carpeting, for example, typically produces a significant amount of electrostatic charge when it resides in a dry, heated environment during the winter. Such charges would be accumulated by a consumer walking on the carpet, and then transferred to the jacket and perhaps to the hangtag when touched by the consumer. For this particular application, anti-static material should be considered for the hangtag's housing. Therefore, the choice of the material is dependent on the nature of the product, and on the environment and the type of the media itself.

Protecting data integrity from potential damages by users. The storage media, be it electronic, magnetic, optical or a combination of them, may be compromised by a number of sources. A scratch and/or speck of dust could inhibit information from being read from or written to a magnetic or optical recording surface. Bending and scratching can affect embodiments that rely on the hangtag's physical integrity, such as connector 16. Therefore, a proper protective measure, such as the use of a paper or plastic sleeve,



and/or a thin layer of transparent plastic directly pasted on the media, may be needed. The plastic may be peeled off after purchase.

Another important consideration is that the way the hangtag according to the present invention is packaged needs to ensure that it may be read and written to without the hangtag being removed from the product. As noted earlier, since the hangtag differs from a traditional hangtag where all information is printed and consumers read that information visually, an additional reading/writing device is needed for use with the hangtag of the present invention, regardless whether it is to be read on-site or off-site. The read/write device can be integrated into a point of sale terminal, and the point of sale terminal may adopt the characteristics of any of the embodiments shown or described in relation to Figs. 4(A) through 4(C).

Once an item is purchased and brought home, the inventive hangtag may be removed from the product and information read directly off the hangtag without it being attached to the product. But this preferably cannot be done before the product is purchased and on the premise. Once the media of the hangtag is removed from the product, the product either has to be sent back for re-tagging, or the media may be misplaced, causing problems in product merchandising and additional work by a merchandiser to manage the missing media.

The registration system of the present invention likewise may use any of the digital media hangtag embodiments described above. The registration system will be described using apparel as the purchased (or otherwise acquired) product, but this is merely for ease of description. The invention is applicable to any and all products which come with a digital media hangtag or a network-registration ready hangtag.

As shown in Figure 5, the registration system 50 includes one or more consumer's computers 52 connected through a network 53, such as the Internet, to a central computer(s) 54. The consumer's computer 52 can be any device capable of communicating with the central computer, including but not limited to personal computers, personal communication devices such as cellular or other mobile phones, palmtop computers, etc. The type of device and the communication path (wired, wireless, satellite, optical, etc.) that is used are not important to the overall functionality of the present invention.

In Figure 5, each consumer's device 52 preferably includes a read and/or write device 52a capable of reading and/or writing data to a hangtag 55 which is/was attached to a product 57. The hangtag is illustrated in Figure 5 similar to a circular optical disc, but it is to be understood that the hangtag 55 is not so limited in the embodiment being  
5 described. It can be any paper, plastic, non-electronic, non-magnetic or non-optical material, or any other material mentioned earlier in this description.

A connecting device 56 may optionally be used to connect the hangtag 55 to the product 57. The connecting device is preferably of the type that must be physically destroyed in order to remove the hangtag 55 from the product 57, but it may be attached  
10 through physical wire, thread, plastic line, tape, or even by putting the hangtag 55 in the pocket of a piece of clothing, or into a box or bag in which the product is packed.

The central computer 54 is similarly any device capable of communicating over the network 54 with the consumers' computers 52. In a preferred embodiment, the central computer 54 includes one or more microprocessor-controlled Internet web servers  
15 which control a web site or analogous engine having one or more specific addresses or URLs (universal resource locator). The central computer 54 may also constitute or be part of a group of pre-linked network locations which share and redistribute network loads.

The hangtag 55 preferably is encoded with several pieces of information that will  
20 be used by the central computer 54 to register the customer's product. These pieces of information include one or more of: a product number (PN), a unique manufacturer number (UMN), a unique retailer number (URN), and a unique hangtag identifier. When the hangtag is a digital media hangtag encoded with machine-readable information, then these pieces of information are in machine-readable form. If the hangtag 55 is intended  
25 to be human-readable, then they may be in a human-readable format.

The product number is a set of characters, including but not limited to alphanumerics, which identify the product to which the hangtag is attached. The number may identify the type of product (such as Shirt) and/or the style of that product (such as Style X). It may also be unique to that particular product, meaning that no two products  
30 share the same product number, although such an embodiment would require additional memory and processing capacity by the central computer 54.

The unique manufacturer number is also a set of characters, including but not limited to alphanumerics, identifying the manufacturer of the product.

The unique retailer number is also a set of characters, including but not limited to alphanumerics, identifying the retailer (i.e., any source of the product other than the manufacturer) from whom the product was acquired. Because the present invention does not necessarily require the consumer to pay money for the product, the concept of “retailer” is intended to be broadly construed.

The hangtag identifier is preferably unique to each respective hangtag, and is especially useful for updating information recorded on writable digital media hangtags, as explained in more detail later in this description.

Additional information may be encoded into the hangtag 55, such as a portion of the product number to identify subcategories of products; identifiers for the date of the product’s manufacture, its location of manufacturing, the quality control personnel who approved it for sale, etc.; identifiers for the retailer’s geographic location; and optionally additional information. These pieces of information may be different for different product categories and different manufacturers, but will all be mapped into a consistent format once they are received by the network service at the central computer 54.

Ultimately, the goal of the registration system is to upload the above-mentioned pieces of information to the central computer 54. The hangtag 55 may be pre-encoded with a URL or other network address in order to facilitate connection to the central computer. For example, the consumer’s computer 52 may use the encoded URL in its own web browser software to make the connection to the central computer’s 54 web site. If the hangtag 55 bears only human-readable information, then the network destination (or URL) for that particular product may be printed on the hangtag 55 and used by the consumer to manually enter the URL into the computer’s 52 web browser.

The process of registering a product will now be described. As indicated above, the hangtag is preferably re-encoded with the PN, UMN, URM, and any other information that may be desired by the entity controlling the central computer 54. The hangtag 55 will also include a hyperlink to a designated web site, e-mail address, or any other pre-determined network location to which the encoded information will be transferred.

The consumer connects the hangtag 55 to the read/write device 52a and either runs the web browser that is pre-installed in the computer 52, or runs web browser software stored on the hangtag 55 itself. In either case, the hyperlink to the network location of the central computer 54 is used to make a communication connection between the consumer's computer 52 and the central computer 54 in a manner known to those skilled in the art.

The connection triggers the central computer 54 to transmit an initial web page or other welcoming information to the consumer's computer 52, preferably with visual and/or audible instructions on how to proceed with the registration process. In a first embodiment, the registration process is actually transparent to the user, wherein the web server at central computer 54 automatically instructs the consumer's computer to read the hangtag and to upload its information. The information is then parsed and processed. Alternatively, registration may include consumer interaction, such as a request for the consumer to initiate the upload of the information from the hangtag 55 to the central computer 54.

Optionally, the registration process requests information about the consumer. The consumer may be asked several questions regarding his or her demographics and characteristics – e.g., age, gender, income, profession, likes and dislikes, height, weight, hair color, contact information such as telephone number, mailing address, e-mail address; etc. These pieces of information are used by the central computer to build a collated database of consumer information and product information. Such a database assists the manufacturer, retailer, or any other party to understand the type of consumer who is attracted to that particular product or type of product, and to predict future consumer purchases. The consumer's name and contact information is useful for registering any warranty that may apply to the product, and/or for contacting the consumer in the event of a sale on similar products, a recall due to product defects, or some other reason. In this regard, the central computer may be controlled by the manufacturer, the retailer, an entity that performs product surveys, or any other entity.

The consumer is preferably asked to input a password so that the information stored at the database 58 is retrievable by authorized persons (preferably in addition to authorities running the central computer). There may be several passwords, such as a

first password for a family, and a second password for an individual in that family. Multi-tiered passwords enable members of a family to see and share information about their respective purchases.

As an example, if the product number is unique to the product that the consumer is registering, then the web server may link to a relational database 58 (e.g., Oracle) in order to register the fact that the product having identification number "123" has been purchased. Such registration ensures that the hangtag cannot be used more than once to register the product. If the product number "123" refers to a style of product, such as a shirt, then the relational database 58 may extract information about a product that goes well with that shirt, such as a pair of pants, and transmits such information to the consumer's computer 52. The consumer may then enter a "shopping" mode of the web site and proceed to browse and/or make purchases over the network 53, which mode is generally known in the art.

Other information about the consumer may be entered either through a software questionnaire that is run from hangtag 55 prior to any connection to the central computer 54. Software encoded on the hangtag initiates a questionnaire which asks demographic questions, after which the link to the web site at central computer 54 is made. The link may be automatic upon completion of the questionnaire, or manual such as by requesting the consumer to click his or her mouse on a "registration" icon displayed on the computer 52. In an analogous fashion, the questionnaire may be run from the web site, after the consumer has been linked thereto.

If the relational database 58 is configured to store personal information about the consumer, such as name and contact information, then the registration system of the present invention can be used to register products each time they are purchased. That is, at the initial stages of the registration process, the consumer is asked whether he or she has previously registered a product, and if so, to enter his or her name and, optionally, password. Such information is then used to retrieve the consumer's account, so to speak, at the database 58. Thereafter, the consumer may enter information about the newly purchased product (or the software can simply extract this information from the hangtag 55), which information is then added to the consumer's account.

In certain embodiments mentioned earlier in the description, the hangtag 55 may be writable. Upon registering a product, the web server may transmit information to the consumer's computer 52 to record onto the hangtag. This information may be promotional information about additional products that are available. It may be software that entertains the consumer. It may be information about the currently registered product, and/or about previously purchased products such that the hangtag 55 acts as a historical record of the consumer's purchases. This obviates the need for the consumer to retain each and every hangtag that was previously obtained, and instead gives the consumer a master hangtag. Hangtags which store information about the products may be useful to police investigations when the product(s) are stolen, in order to assist in their identification and authentication.

In other embodiments of the present invention, the hangtag 55 may simply be preprinted with the information needed to register the product, such as the product number (PN), manufacturer number (UMN), and/or retailer number (URN). Along with these pieces of information will be printed the name or network address of the registration web site. The consumer manually enters the network address, e.g. into his or her web browser program, and then enters the registration system. Demographic and personal information may then be entered in response to prompts generated by the network location. As in previous embodiments, the user may be asked to enter a username and password which allows the relational database 58 to store newly added product information into the consumer's account.

For embodiments which use pre-printed hangtags rather than hangtags which store digital information, the present invention preferably generates a digital media hangtag for the consumer after product registration. That is, after registering a product, the central computer may extract the consumer's information together with additional information about the registered product, record that information onto one or more of the hangtags described herein, and deliver it to the consumer. The hangtag thus becomes a personalized record about the product and its purchase. As with the previous embodiments of the hangtag, this personalized hangtag may include merchandising information, advertisements, coupons, incentives, and other marketing tools.

Figures 6 and 7 show flow charts for the registration process according to first and second embodiments. The process begins with the consumer inserting the digital media hangtag into a proper reader 61. Software on the hangtag is executed, and causes the consumer's computer to extract the product information, manufacturer information, retailer information, and any other pertinent information from prescribed storage areas on the hangtag. Step 62. If the hangtag itself stores an electronic questionnaire to be filled out by the consumer, then the branch 63 is executed. If the questionnaire is executed from the web site at the central computer, then branch 63a is executed.

In branch 63, the consumer answers the questionnaire using a keyboard, mouse, or other data input device. Step 64. After the questionnaire is completed, the consumer is presented the option of whether to register the product, such as by being presented an icon that the consumer may select with a mouse. Step 65. Upon selecting the registration icon, the software on the hangtag initiates a network connection to the central computer 54 in order to upload the product and questionnaire information. Step 66. This may be done by web browser software encoded on the hangtag itself, or by asking the consumer's computer 52 to run its own web browser and to use a specific network address (e.g., URL) to find the central computer 54. The web server at the central computer preferably informs the consumer of the status of the upload. Finally, in step 67, the consumer may continue his or her interaction with the central computer 54, such as by browsing product information available at the web site, or by returning to a perusal of the information stored on the hangtag.

In branch 63a, where the electronic questionnaire is run at the web site, the consumer begins by requesting a network connection to the central computer. This may be done by manually typing in the network address into the web browser program running at the consumer's computer 52, or by running the software stored on the hangtag, as previously described. Step 68. The network web site thereafter presents, and the consumer answers, the online questionnaire. Step 69. When the last question is answered, step 70, the consumer may continue his or her interaction with central computer 54, such as by browsing product information available at the web site, or by returning to a perusal of the information stored on the hangtag. Step 71.

In Figure 7, registration from a printed hangtag is described. The consumer manually enters the network address (e.g., URL) that is printed on the hangtag. Step 73. Upon connection to the central web site and selecting a "registration" option, step 74, the consumer enters his or her username and password, step 75. If this is the consumer's first registration of any product, then the username and password are used to create a new consumer account in the relational database. If the consumer has used the system before, the username and password identify the consumers existing account. In step 76, the user manually enters the product number, UMN, URN, and other information read from the printed hangtag. Additional information may be requested by the web site, step 77, such as the consumer's demographic information, personal information, etc. After completing the registration process, the consumer is allowed to browse the product information that is stored on the virtual digital media hangtag residing at the central computer, and/or to peruse other options that the web site offers. Step 78. As mentioned previously, the central computer may also generate and/or forward to the consumer an actual digital media hangtag for the product that was registered.

The registration process combines a product hangtag and a connected network location to facilitate registration of any product, especially non-software and non-electronic products which can self-register over a network, and provides direct marketing and merchandising to consumers in addition to any service warranty purpose that it may serve. Some of the advantages of the inventive registration processes include (1) instantaneous registration; (2) ease of repeated registration by the same consumer; (3) novel electronic organization and management of the registered consumer and product information, and (4) new business services and applications for manufacturers and consumers alike.

A digital media hangtag, depending on its storage capacity, may store information such as product information, cross merchandising, advertising, and affiliated sponsorship. A consumer may enjoy these contents off-line on their own computer, PDA, wireless communications device, or whatever device is able to read the hangtag. When the consumer is interested in purchasing another product or getting more information about the registered product(s), the hyperlink that is built into the hangtag facilitates a



connection, via something as easy as a mouse click, to the network address where complete product and other information may be found.

A printed hangtag acts, in essence, as a way to find a virtual digital media hangtag residing at the network address, where the virtual digital media hangtag takes the form of a file folder or a linked but distributed mixture of databases and files. A consumer visits the designated network location to access the information that would otherwise be found on a physical digital media hangtag. While the digital media hangtag has the advantage of itself storing product information, a printed hangtag is much easier and less expensive to manufacture and therefore finds applicability to entry level and inexpensive products.

Examples of the product information that are found either on the digital media hangtag, or in the virtual digital media hangtag residing on the web site, include product caring, usage, service and other related information; merchandising information where related or matching products are described to the consumer, including hypertext links to where those products and services may be purchased directly off the connected network or where additional information about those products may be obtained; advertising and sponsorship information related to the product; and music, software and any other incentive information.

This data management structure affords a registered consumer to log on to the site, and to retrieve information originally found on the digital media hangtag, e.g., in the event that the digital media hangtag is misplaced or lost. A new, recordable hangtag may then be used to download the information for future, local use. Moreover, because some information found on a digital media hangtag might get updated on the web site, the consumer can download the updated information onto the original hangtag, or optionally onto a new one. Here, the hangtag might bear its own identification number which is read and used by the software running at the web site, in combination with the relational database 58, in order to determine whether that particular hangtag has been updated with the latest hypertext links, revisions to that product's information, the manufacturer's information, the retailer's information, etc. Updates can be automatic once the central computer 57 determines that no such update has yet been performed. The hangtag can also be configured not to have any product information thereon when initial obtained by the consumer, and to be recorded with product information only after the registration

process. This ensures that the digital media hangtag will bear the most recent information about the product.

As an example of merchandising information, a purchased product might have a matching accessory that is offered on the product's hangtag. If the accessory is available  
5 from a retailer whose street or Internet location has changed, then the hangtag may be updated with correct information.

If the hypertext links recorded on the digital media hangtag are to access parties other than the party controlling the central computer 57, then the hypertext link may be checked by the central computer's 57 web server software to verify that it is current. If  
10 the hypertext link is outdated and needs to be changed, then the web server will download the correct link to the consumer's computer 52 for the purpose of overwriting that field in the hangtag. The consumer can thereafter "click" on the hypertext link and find the correct destination.

As shown in Figure 8, this procedure begins with the consumer connecting the  
15 digital media hangtag with the appropriate read/write device on the consumer's computer. Step 81. If registration is needed, then registration can proceed. Step 82. Alternatively, step 82 may be an automatic connection to the central computer 57 for the express purpose of verifying whether any updates are needed to the information stored on the hangtag. The web server compares the product information, manufacturer's information,  
20 hangtag identifier, or any other information stored on the hangtag, against the relational database 58 (or elsewhere) to see which pieces of information have been flagged for updating.

In step 83, the consumer can browse for merchandise or other incentives found on the hangtag itself, or found at the web site. The consumer will browse the products of  
25 interest, step 84, and if interested in finding more information or buying a product, he or she selects the appropriate option. Step 85. From there, the consumer is hyperlinked to the virtual digital media hangtag residing at the relational database so that the consumer can get more information about the product. Here, the software running at the web server can check the information on the hangtag for currency and accuracy, steps 87, 88, and  
30 thereafter the consumer is linked to the source where the product may be purchased. Step 89.

Based on a virtual digital media hangtag architecture, the database for each individual registered user becomes merely a simple relational database or file structures comprised of, but not limited to, User name; password; Date and time of registration; PN (from a digital media or printed hangtag); UMN (from a digital media or printed hangtag); URN (from a digital media or printed hangtag); Personal information provided from the consumer; Link to the virtual digital media hangtag (i.e., a mirror of whatever is/would be stored on the digital media hangtag); and any other entries that the artisan may like to have.

The architecture represents a very storage, memory and CPU efficient database structure that facilitates an easy organization and management of both user and product information. For example, if a consumer were to store clothing information in his/her own computer, image files for that clothing can take up to 100K bytes, for example. But on the centralized network, if five thousand consumers register for the same piece of clothing, the storage requirement is not  $(5000 \times 100K = 500M)$  bytes, but rather only 100K bytes plus 1000-2000 bytes used to store the link information. Thus the present invention decreases memory demands.

The present invention also affords novel business applications and models based on the registration process using a digital media or printed hangtag. Some applications are applicable to a particular product, and others are generally applicable to all products.

The product registration process described in this document permits the consumer to store information about his or her purchases, and optionally those of his or her entire family, in a centralized and electronic location. A "virtual closet" is essentially created for each registered user, where digital images, informational data, etc., can be reviewed whenever needed. Similarly, one member of a family can review another members products, to see his or her likes and dislikes and thus assist in making future gift purchases for that family member. For example, a family-wide username and password can retrieve information that is "public" to that family. The relational database is preferably configured to afford its members the option of posting product information among a group of authorized persons, such as through the aforementioned vehicle of a family-wise password that allows members of a family to see the products of other family

members. The family members may also be given the option of keeping certain product information private, inaccessible to the other family members.

As mentioned previously, the digital media hangtag and/or the consumer's account held in the relational database 58 may store information such as the consumer's hair color, eye color, height, etc. These pieces of information are preferably used to retrieve additional products that may suit that particular consumer.

Additional embodiments of the present invention contemplate cross shopping. The product registration process builds up an extensive product database from different brands and manufacturers. Each manufacturer likely maintains these pieces of information in different forms and formats. This would make cross searching among different manufacturers rather difficult because a search of certain field in one product's data record likely would search an incorrect field of another product's data record. However, by registering their product information with the centralized network location of the present invention, the entity controlling the central computer 54 is able to pre-process the product information into a standard format. Conversion software that changes the plural formats of several manufacturers into a single, searchable format in the relational database 58 ensures a consistent form and format on the web server and on each digital media hangtag. This, then, facilitates a new way of cross shopping, i.e., using a single network location such as the web site of central computer 54 to search and query products and services from numerous manufacturers, retailers, and other sources using a consistent data form and format. For products such as clothing which, under each style, there are sizes, colors and designs to choose from, comparison shopping are best made when all retailers adopt a consistent form and format of database and file structure for all their products. Because the pre-processing by the central computer 54 converts all products into a consistent form and format for data storage, libraries of virtual hangtags will form a basis on which cross searching or query of different brands and different retailers and manufacturers can be easily done. Furthermore, linking the consumer to other manufacturers or retailers may be done easily, as this is part of the information on each virtual digital media hangtag. The present invention thus creates a new electronic shopping mall, where data boundaries of each electronic store no longer exists, so that the

ease and convenience of comparison shopping can be extended across all electronic retailers in an electronic shopping mall.

For example, in a traditional comparison shopping scenario the consumer enters “dress shirt” first. A list of retailers will be presented. The consumer clicks on each retailer of interest, and once in the particular retailer’s site, the consumer repeats a product search within the retailer’s site. Enter color style, fabrics, etc., click on products within the store to browse, exit that particular retailer’s site and go back to the main list on the comparison shopping service. The consumer then clicks on another retailer site for another browsing, and repeats the entire process.

Based on the present invention, comparison shopping is done as follows. The consumer enters “dress shirt “ first. Then he or she can enter color, style, size, etc. The consumer can also choose one or more brands. Browsing of the products of several manufacturers occurs simultaneously because all manufacturers products are in the same centralized database. The consumer can then select to purchase a product from source who has the best price or who has the best availability.

Finally, in order to make the purchase, the consumer may be linked to the site for that source. Alternatively, the purchase may be made directly on the web site of the entity controlling the central computer 54, with the purchase request being forwarded to the product source for fulfillment.

Having a unified network destination for consumers to register products obtained from different manufacturers, brands and retailers offers unprecedented cross consumer behavior and business information accessible to both businesses and consumers, which has not heretofore been available with any traditional approach of product registration.

Traditional product registration is limited to products from the same company, and to warranty purposes.

The registration process of the present invention is user-centric, meaning that it is based on consumer identification rather than product identification. The database is preferably built and arranged based on each user with their personal information and products purchased, and cross referencing is done easily. If user1 and user2 bought shirts from the same brand, and since the retailer information (URN above) is also available, a relationship may be built to track buying behavior of these two consumers. Since the

database is built on each individual user, and product category and detailed classification are consistent, through the use of a common product number it becomes very efficient, with UMN and URN, to conduct efficient cross references, correlation analysis between and among users, users groups and products and product groups.

5 Another important new application which results from the inventive registration process is having information, raw or processed, available to retailers, manufacturers and consumers at all times, as long as they have access to the computer network through either a computer, desktop or mobile, a PDA, a network connected wired or wireless communications device, or any other electronic, magnetic or optical network access  
10 devices. That is, 24 hours a day, 7 days a week, 365 days a year, the data aggregated by the registration process is available to all participants. Dynamic updates to the information, as more and more registrations are made, further improves the utility of the aggregated data. Reports can be made daily, with fresh information each time.

Authorization to view the aggregated data by retailers and manufacturers, which  
15 by way of passwords are given access to the registered users of their particular products, and by consumers, who have free access to their own user registration files, can be effected through additional passwords or authentication methods. Moreover, the data to be viewed by each such party may be customized and modified for cross references and data analysis amongst manufacturers, or between manufacturers and registered  
20 consumers who may or may not have bought products from that manufacturer. As another example, a manufacturer may seek to conduct a focus group study among 100 female consumers for a new line of dresses. A consumer who registers a product is informed of this, and may be interested in participating. Even if she learns of the study from a different source, she may log onto her registration database, enter a focus study  
25 option as "yes," and select the proper manufacturer. The manufacturer is able to learn immediately the interest of this consumer, and perhaps select that consumer based upon additional demographic or other information stored in that consumer's account in the relational database 58.

It should be understood that any of the read and/or write devices described in  
30 relation to Figures 1 through 4 may act as the consumer's computer 52. That is, store personnel and/or consumers may have access to read/write devices that retrieve

information from the products prior to purchase, and can communicate with a central registration computer such as computer 54 for the purpose of obtaining additional product information prior to, or subsequent to a purchase. The functions of the embodiments described with Figures 1 through 4 are compatible for use with the embodiments  
5 described in relation to Figures 5 through 8, and vice versa.

The invention having been thus described, it will be obvious that the same may be varied in many ways not only in construction but also in application. For example, the inventive registration system can be used to track title to the product as one consumer sells it to another. Such variations are not to be regarded as a departure from the spirit  
10 and scope of the invention, but rather as modifications intended to be encompassed within the scope of the following claims.

What is claimed is:

1. A system for registering that a consumer has obtained a product, comprising:  
a product hangtag bearing product information related to a product obtained by a  
user;

5 a central registration computer; and

a user's data sharing device in communication with said central registration  
computer over a computing network,

wherein said user's data sharing device transmits the product information to said  
central registration computer in order to inform said central registration computer that the  
10 product has been obtained by the user.

2. The system of claim 1, wherein the product information is encoded on said  
product hangtag in a machine-readable form, and said user's data sharing device includes  
a reading device suitable for reading the product information.

15 3. The system of claim 1, wherein the product information is printed on said product  
hangtag in a human-readable form, and the user manually enters the product information  
into said user's data sharing device for transmission to said central registration computer.

20 4. The system of claim 1, wherein the product information includes at least one of: a  
product identifier, a manufacturer identifier, a retailer identifier, and a hangtag identifier.

5. The system of claim 1, wherein the user of said user's data sharing device inputs  
user information about the user, for transmission to said central registration computer,  
25 and further wherein said central registration computer includes a database for correlating  
the product information with the user information.

6. The system of claim 1, wherein said product hangtag is a recording medium  
capable of storing machine-readable data and said user's data sharing device includes a  
30 writing device suitable for recording data on said product hangtag, and further wherein



said central registration computer transmits data to said user's computer for recording on said product hangtag.

7. The system of claim 6, wherein said product hangtag includes machine-readable data including a hypertext link, usable by a web browser in said user's data sharing device, for linking with a network address, and the transmission of data from said central registration computer to said user's data sharing device includes a change to the hypertext link.

8. The system of claim 1, wherein said central registration computer stores information about a plurality of products registered by each of a plurality of users.

9. The system of claim 1, wherein said central registration computer associates the product information with a username input by the user, said username being usable by the user on subsequent connections to said central registration computer to access information about the registration of the product by the user.

10. The system of claim 1, wherein said central registration computer further stores information about a plurality of available products available from a plurality of sources, and further wherein the user may browse said information about the available products at any time after registering the product.

11. A hangtag for a product, comprising:

prerecorded machine-readable product information, said product information including at least one of: a product identifier, a manufacturer identifier, a retailer identifier, and a unique hangtag identifier; and

an encoded hypertext link to an address on a computer network.

12. The hangtag of claim 11, wherein said hangtag is a circular compact disc.

13. The hangtag of claim 12, wherein said compact disc is writable.

14. The hangtag of claim 11, wherein the address on the computer network is for a central registration computer meant to receive said product information.

5 15. The hangtag of claim 14, further comprising product data received from the central registration computer.

16. The hangtag of claim 15, wherein the product information relates to a first product, and the product data relates to the first product.

10

## AMENDED CLAIMS

[received by the International Bureau on 21 January 2001 (21.01.01);  
new claims 17-45 added; remaining claims unchange (5 pages)]

14. The hangtag of claim 11, wherein the address on the computer network is for a central registration computer meant to receive said product information.

15. The hangtag of claim 14, further comprising product data retrieved from the  
5 central registration computer.

16. The hangtag of claim 15, wherein the product information relates to a first product, and the product data relates to the first product.

10 17. A hangtag for temporary attachment to an associated product comprising:  
an attachment mechanism structured to detachably attach the hangtag to the  
associated product; and  
a digital storage medium, physically constrained to the attachment mechanism,  
with the digital storage medium being structured to store machine readable digital data.

15 18. The hangtag of claim 17 wherein the attachment mechanism comprises a  
loop structured to surround at least a portion of the associated product.

19. The hangtag of claim 17 wherein the digital storage medium is structured  
20 to store optically readable data.

20. The hangtag of claim 17 wherein the digital storage medium is structured  
to store magnetically readable data.

25 21. The hangtag of claim 17 wherein the digital storage medium is structured  
to store magneto-optically readable data.

22. The hangtag of claim 17 wherein the digital storage medium is structured  
to store electronically readable data.

30

23. The hangtag of claim 17 wherein the digital storage medium is structured to store machine readable digital data such that relative motion between at least a portion of the storage medium and at least a portion of a reading machine is required for the data reading device to read the machine readable digital data.

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24. The hangtag of claim 17 further comprising machine readable digital data stored on digital storage medium.

25. The hangtag of claim 24 wherein the machine readable digital data  
10 comprises an identification code identifying at least some of the characteristics of the associated product.

26. The hangtag of claim 25 wherein the identification code uniquely identifies the associated product.

15

27. The hangtag of claim 24 wherein the machine readable digital data comprises address information defining a computer network location relating to the associated product.

28. The hangtag of claim 24 wherein the machine readable digital data  
20 comprises registration information to facilitate registration of the associated product into a registration database.

29. The hangtag of claim 28 wherein the registration is indicative of a transfer  
25 of the associated product.

30. The hangtag of claim 28 wherein the registration facilitates implementation of a warranty covering the associated product.

31. The hangtag of claim 24 wherein the machine readable digital data  
30 comprises at least one of the following: advertising information, sponsorship

information, product specifications, product care information, complementary product information, price information, computer network link information and entertainment information.

5           32.     The hangtag of claim 17 wherein the digital storage medium is structured to be rewritable.

          33.     The hangtag of claim 32 further comprising machine readable digital data stored on digital storage medium, wherein the machine readable digital data comprises  
10   transfer information relating to a transfer of the associated product.

          34.     The hangtag of claim 17 wherein the attachment mechanism further comprises a housing shaped and sized to constrain the digital storage medium to the housing such that the digital storage medium can move relative to the housing.  
15

          35.     The hangtag of claim 34 wherein the housing includes ant-static shielding material.

          36.     The hangtag of claim 34 wherein the housing defines an aperture located  
20   so that light beams can travel from outside the housing to at least a portion of the digital storage medium.

          37.     The hangtag of claim 34 wherein the housing is structured to allow relative rotational motion between the housing and the digital storage medium.  
25

          38.     The hangtag of claim 37 wherein the housing comprises an annular rim of generally annular shape.

          39.     The hangtag of claim 38 wherein:  
30   the digital storage medium is generally disc shaped; and

the annular member includes a notch shaped and located to constrain at least a portion of a radial edge of the digital storage medium.

40. A method of communication comprising the following steps:  
5 providing a product database of information relating to a plurality of products;  
transferring a transferred product from among the plurality of products to a transferee;  
registering the transfer of the transferred product; and  
controlling access to portions of the product database based at least in part on the  
10 registered transferred.

41. The method of claim 40 further comprising the step of allowing the transferee to access portions of the database corresponding to the transferred product.

15 42. The method of claim 40 wherein the transfer of the product is a sale of the product to the transferee.

43. The method of claim 40 wherein the registering step and the control of access step are implemented using networked computers.

20 44. The method of claim 40 wherein the registering step includes the steps of:  
providing the transferred product with a hangtag that includes machine readable data relating to registration; and  
reading the machine readable data of the hangtag in accomplishing the  
25 registration.

45. The method of claim 40 wherein the machine readable information includes a link to a computer network address that is used in the registering step.

5

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**Statement Under Article 19(1)**

Applicant respectfully submits an Amendment under Article 19. The Amendment makes minor usage and grammar changes at Replacement Pages 1, 2 and 4. The Amendment adds claims 17-45 at Replacement Pages 32-37. The added claims are added to better cover the applicant's invention. The substance of the Amendment is further explained in the Letter Accompanying Replacement Pages which is concurrently submitted.

If any further requirements are necessary, the Office is requested to contact the Applicant's Attorney directly at (619) 699-2537.



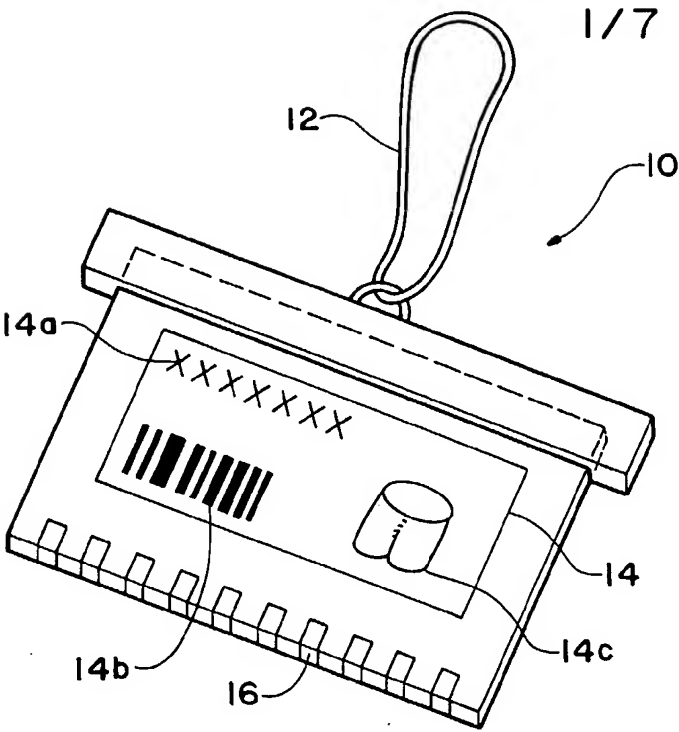


FIG. 1A

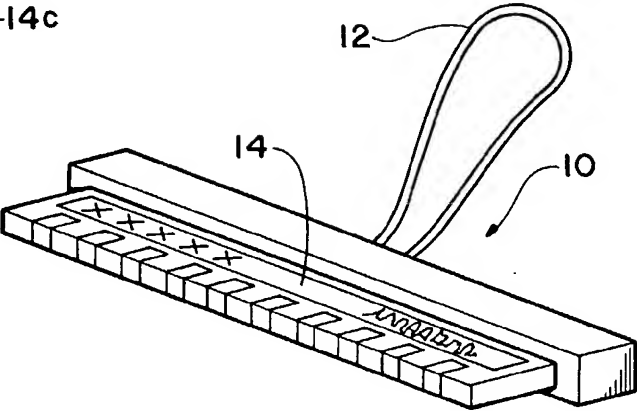


FIG. 1B

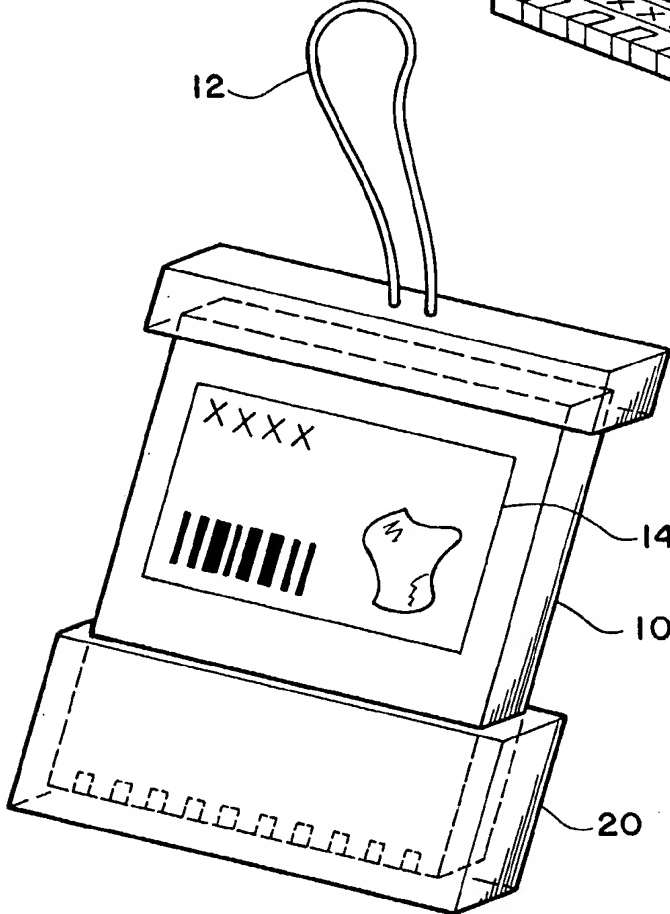


FIG. 2A

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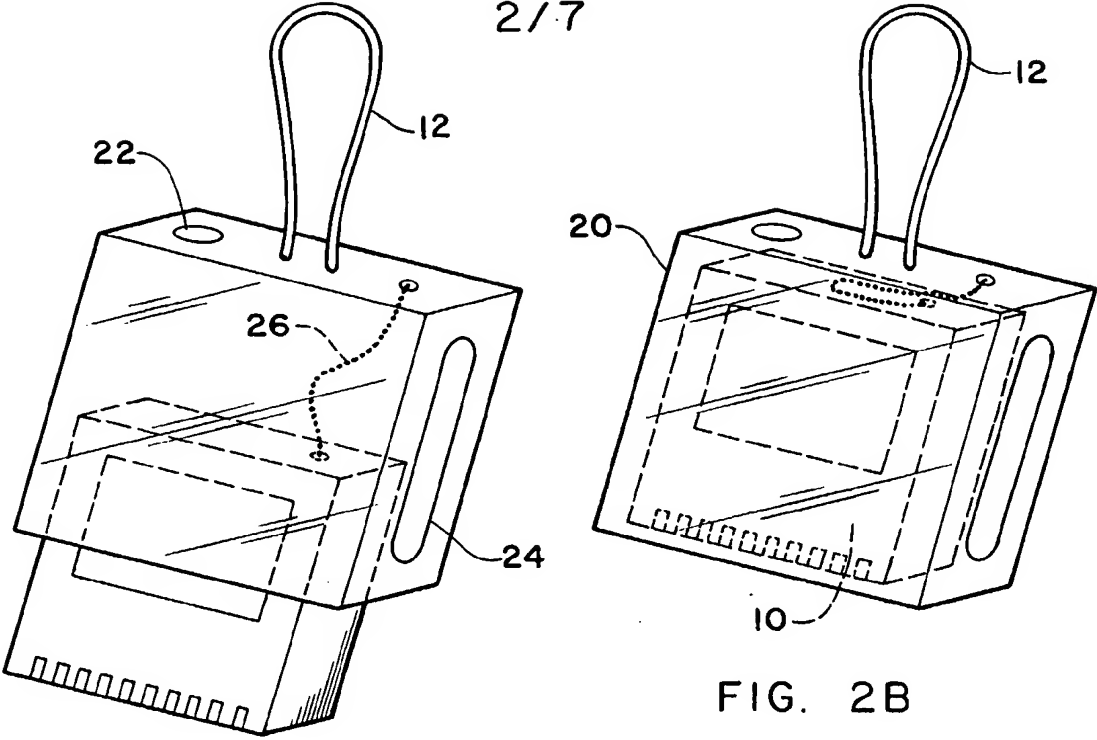


FIG. 2C

FIG. 2B

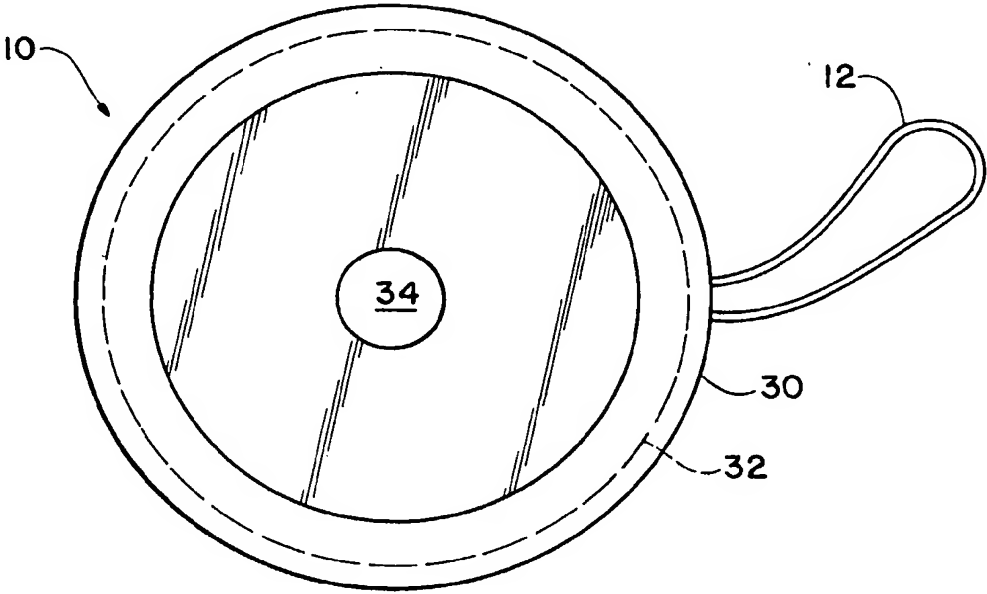


FIG. 3A

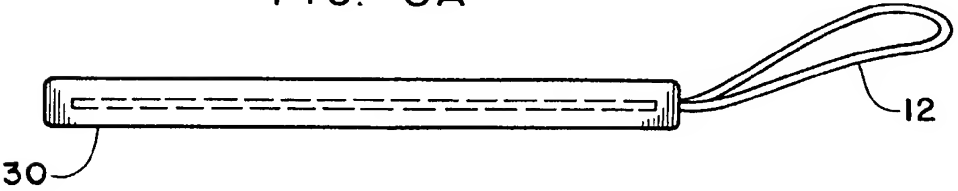
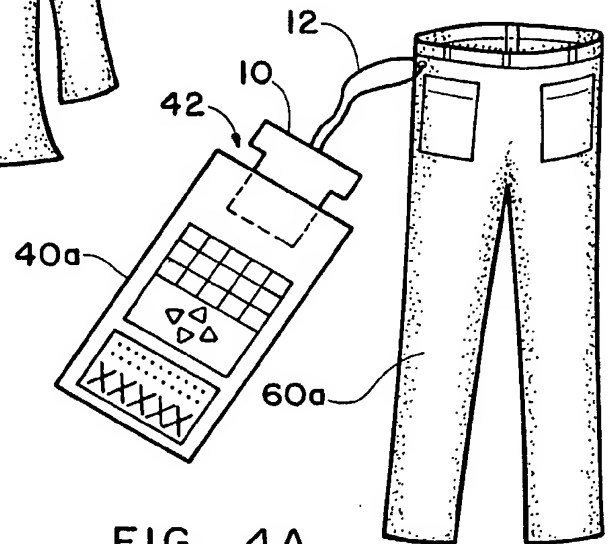
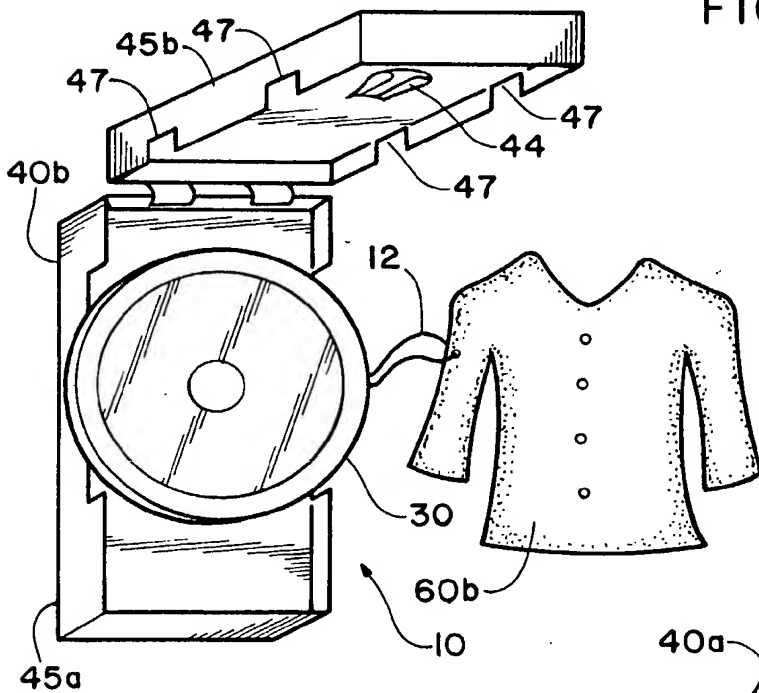
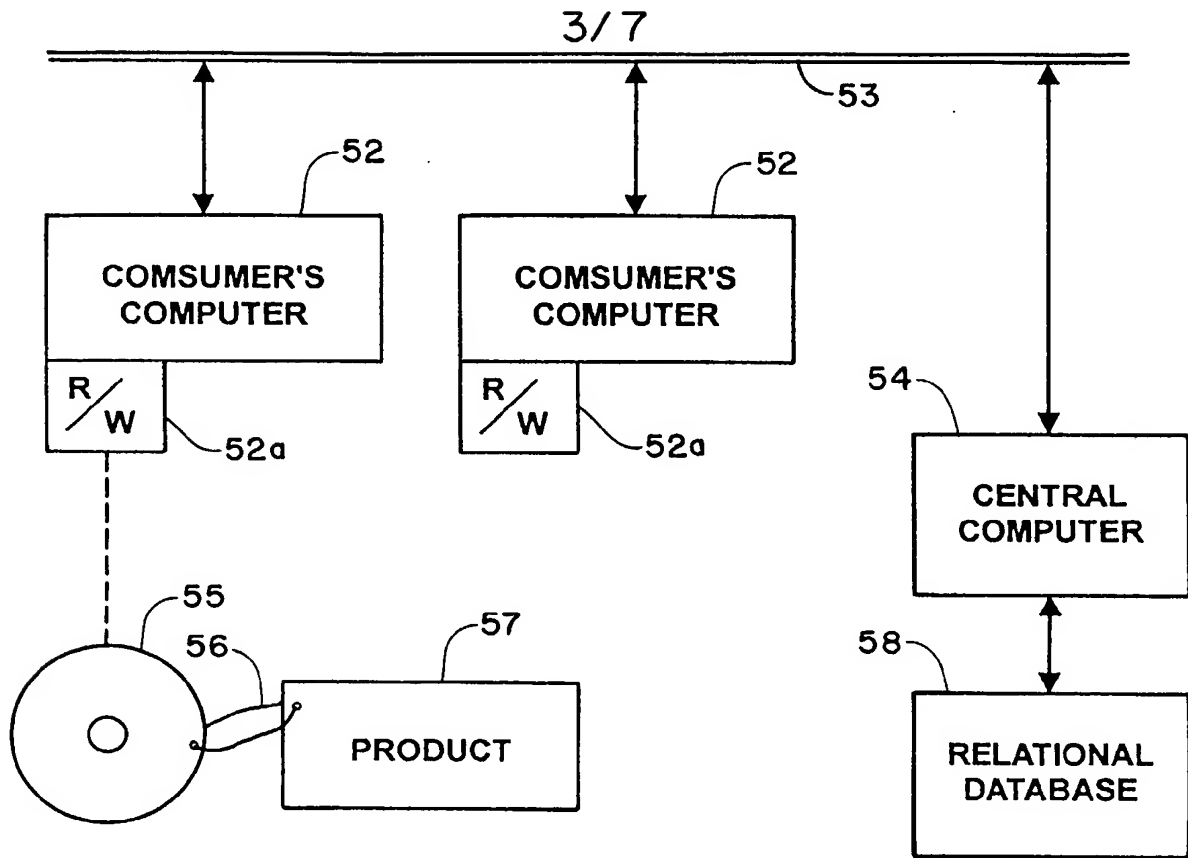


FIG. 3B



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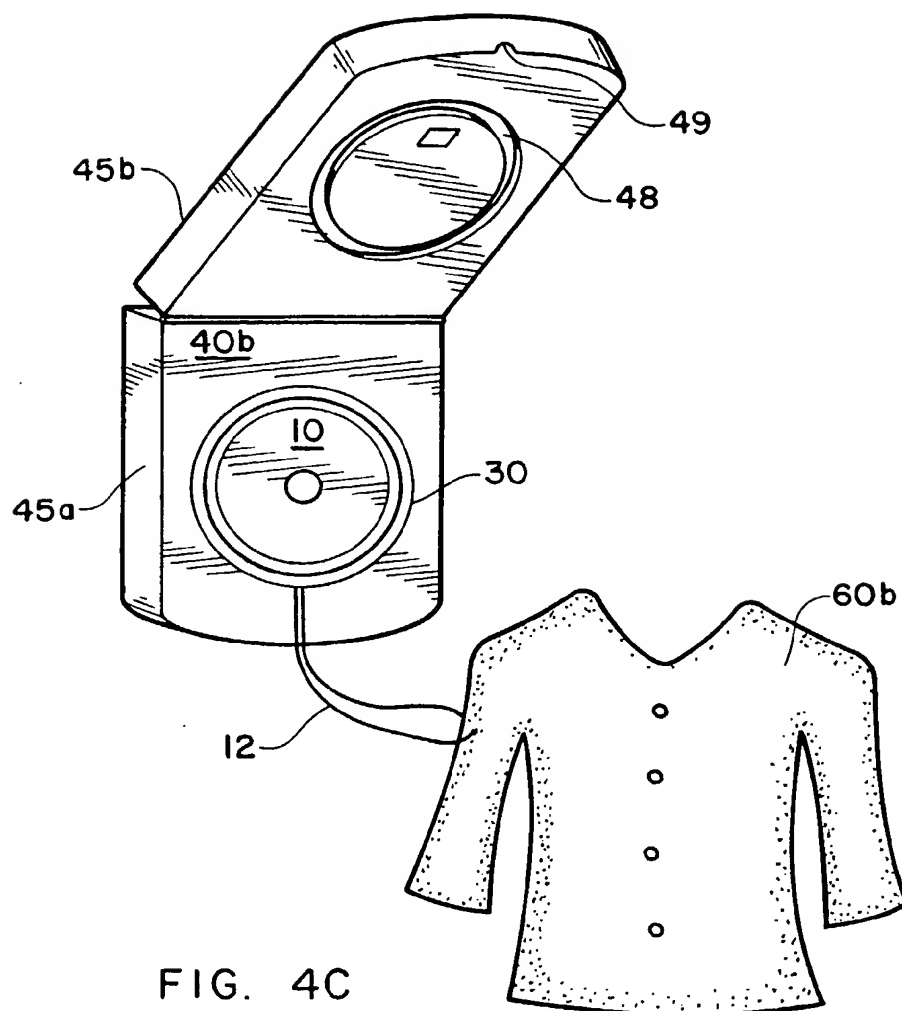


FIG. 4C

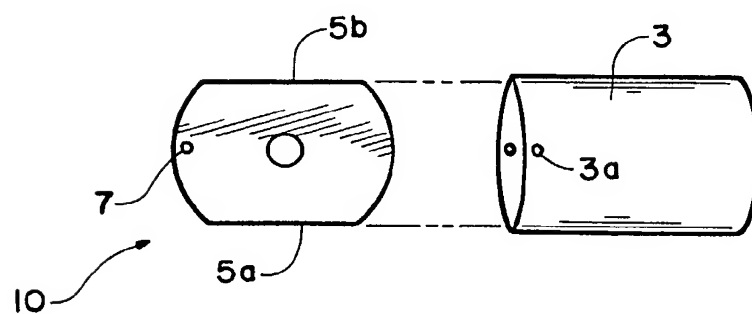


FIG. 4D

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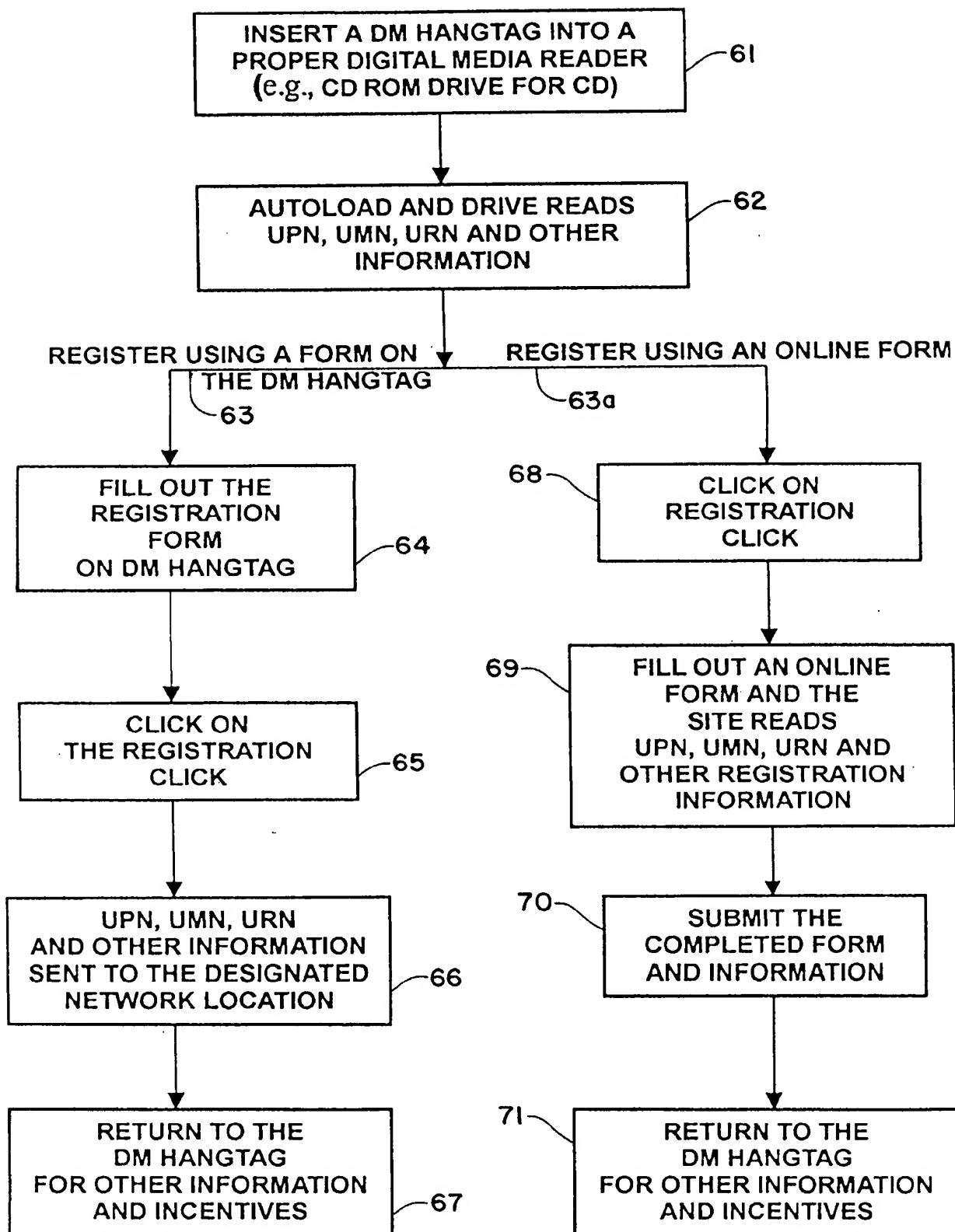


FIG. 6

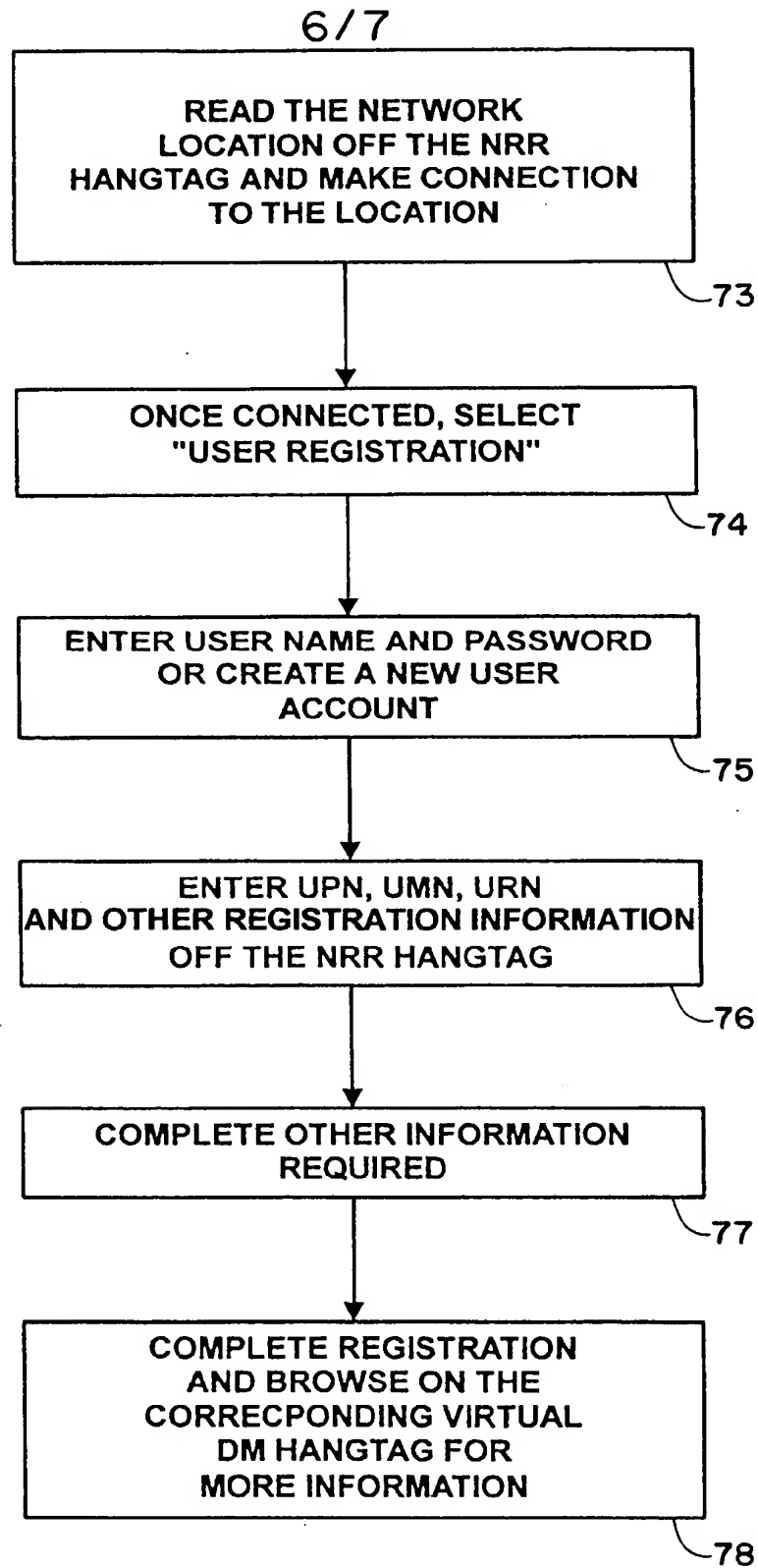


FIG. 7

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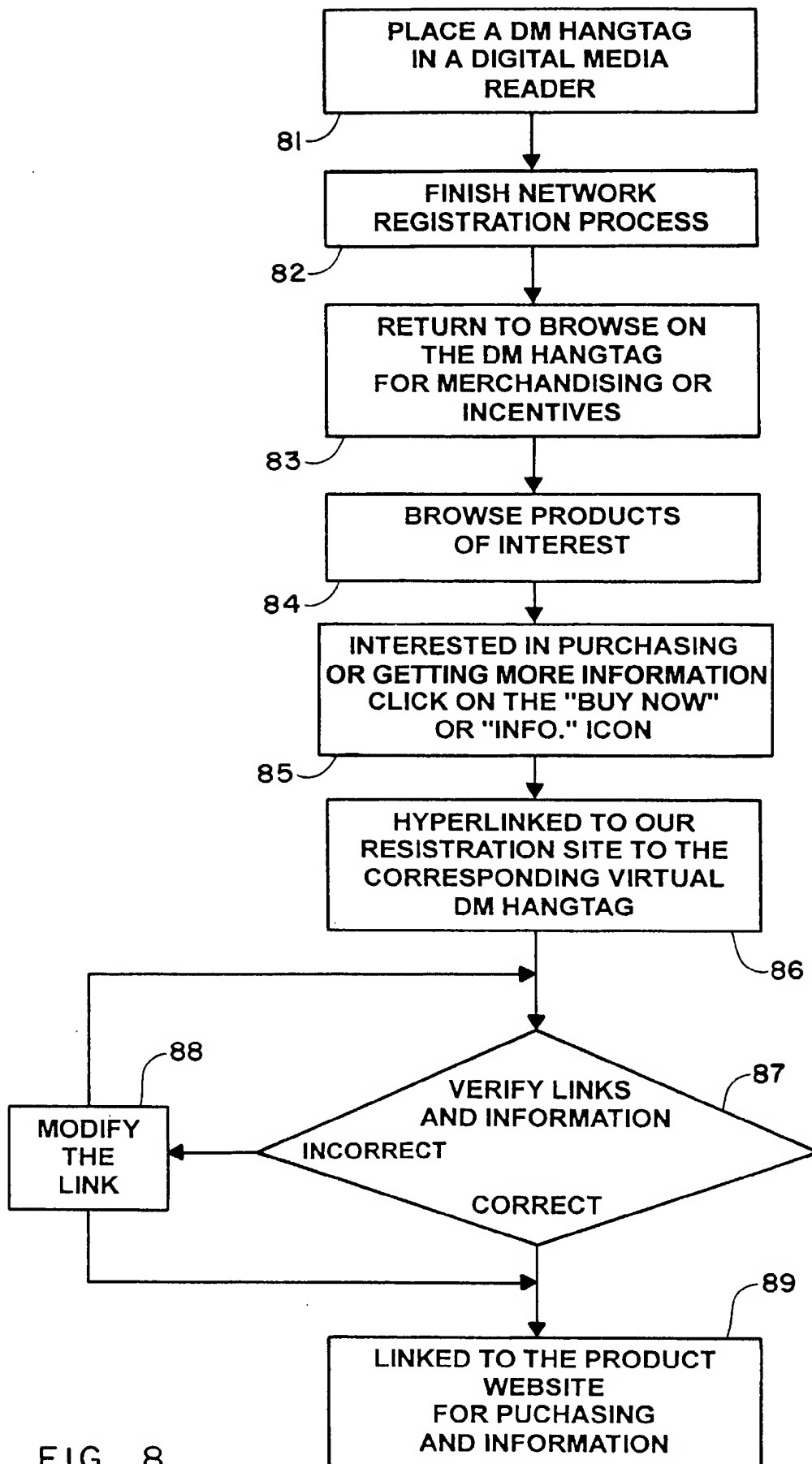


FIG. 8

## INTERNATIONAL SEARCH REPORT

Int'l Application No

PCT/US 00/03593

**A. CLASSIFICATION OF SUBJECT MATTER**  
 IPC 7 G06F17/60 G06F17/30

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
 IPC 7 G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

WPI Data, EPO-Internal, PAJ, IBM-TDB, INSPEC

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5 806 043 A (TOADER) 8 September 1998 (1998-09-08) the whole document ----	1-16
Y	DE 36 19 530 A (HÖTTLER) 15 October 1987 (1987-10-15) the whole document ----	1-16
A	US 5 809 237 A (WATTS ET AL) 15 September 1998 (1998-09-15) column 60, line 46 -column 65, line 61 ----	1-16
A	WO 98 38761 A (NEOMEDIA TECHNOLOGIES, INC.) 3 September 1998 (1998-09-03) the whole document ----- -/--	1-16

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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- "&" document member of the same patent family

Date of the actual completion of the international search

15 November 2000

Date of mailing of the international search report

22/11/2000

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 NL - 2280 HV Rijswijk  
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## INTERNATIONAL SEARCH REPORT

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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## INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 00/03593

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